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(71)Applicant : CANON INC

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(54) ELECTRIC ELEMENT

(57)Abstract:

PURPOSE: To improve a Josephson effect having excellent stability and reproducibility by constituting a tunnel barrier layer of a monomolecule or a monomolecular built-up film including one kind or more selected from a group consisting of a specific substance such as an organic compound having a pi-electron unit.

CONSTITUTION: A tunnel barrier layer for an electric element is composed of a monomolecular film or a monomolecular built-up film containing a specific material. Homogeneity and strength as the tunnel barrier layer are improved, thus acquiring element characteristics having excellent stability and reproducibility. The material includes one kind or more selected from a group consisting of an organic compound having a pi-electron level, a polyimide derivative, a polyamic acid derivative, a polyamide derivative, the copolymer of a fumaric acid derivative, the copolymer of a maleic acid derivative, a polyacrylic derivative, the copolymer of an acrylic derivative, and a polypeptide. The tunnel barrier layer for the electric element is shaped through an LB method. The constitution of a device at the time when the tunnel barrier layer is formed is simplified extremely.